

Group Members:

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Q5: What Challenges you Face during the project?

1. Output Display Issue:

One challenge was encountered in displaying the output of the lexical analyzer. This issue was resolved by addressing a variable naming discrepancy (`Semicolon` was initially named `EndLine`) and ensuring the `Console.WriteLine` statement appropriately handles `null` values for the `Value` property.

2. Missing SemicolonEnum:

Another challenge involved the absence of the `Semicolon` token type in the `TokenType` enum. This issue was addressed by adding `Semicolon` to the enum to properly handle semicolons in the input code.

3. Exception Handling:

Proper exception handling was identified as an area for improvement. To enhance error reporting, it is recommended to provide more informative error messages. Specifically, when encountering an invalid character, the exception message could include details about the problematic character and its position in the input code.

4. Modularization:

Organizational concerns were addressed by considering further modularization of the code. Breaking down the lexer functionality into smaller, more focused methods can enhance code readability and maintainability.

5. Token Naming Consistency:

Ensuring consistency in token naming was identified as a point of improvement. The `Semicolon` token type was added to the `TokenType` enum to maintain consistent naming conventions.

6. Testing Approach:

Strengthening the testing approach was highlighted as a valuable improvement. Thoroughly testing the lexer with various inputs, including edge cases and invalid inputs, helps ensure correct behavior and effective error handling.

7. Output Format Improvement:

Consider modifying the output format to make it more informative. For instance, including line numbers and positions for tokens in the input code can aid in debug.